

ID: 87393626

Injury - Drug Overdose, Substance Use/Mental Health - Host Site Description
Arizona Department of Health Services

Assignment Location: Phoenix, US-AZ
Arizona Department of Health Services
Bureau of Assessment and Evaluation

Primary Mentor: Martin Celaya, MPH, DrPH
Bureau Chief
Arizona Department of Health Services

Secondary Mentor: Lubaba Tasnim, MPH
Senior Epidemiologist (Drug Overdoses)
Arizona Department of Health Services

Work Environment

Hybrid

Assignment Description

The fellow will be placed within the Bureau of Assessment and Evaluation (BAE) in the Prevention Epidemiology and Evaluation Team (PEET). BAE leads the collection, analysis, and interpretation of data related to maternal and child health, injury and violence, chronic disease, and oral health. Its mission is to support programs and partners in making data-driven decisions that promote equitable health outcomes for Arizona's children, women, and families. BAE has successfully hosted and mentored CDC Public Health Associates, undergraduate and graduate students, and three CSTE fellows. Drug overdose surveillance is housed within BAE, while opioid prevention activities are led by the Office of Violence and Injury Prevention (OIVP). The fellow will work in partnership with both BAE and OIVP to support surveillance and prevention efforts focused on improving the timeliness, quality, dissemination, and use of drug overdose data, including data on prescription drug trends and emerging illicit drug threats.

Day-to-day activities will include:

- Collaborate with county and tribal partners to respond to data requests, strengthen surveillance systems, and incorporate partner feedback to improve data quality and usability
- Use SAS and other analytic tools to clean, prepare, and analyze drug overdose surveillance data
- Partner with the ADHS prevention team to identify and interpret data that inform evidence-based policy decisions and prevention strategies
- Develop and maintain dashboards and data visualizations that translate complex overdose data into clear, actionable insights for diverse audiences
- Advance overdose surveillance capacity by enhancing existing opioid surveillance systems and working toward comprehensive monitoring of non-opioid drug overdoses, including stimulants
- Opportunities to collaborate across prevention areas, including maternal and child health, chronic disease, and injury prevention, based on fellow interests and project goal alignment
- Assist with the development of the Annual Opioid Surveillance Report, including data preparation, analysis, and review of findings
- Lead applied projects from conceptualization through analysis, interpretation, and dissemination, with opportunities to present findings to internal leadership, external partners, and at conferences or webinars

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Describe Statistical and Data Analysis Support, Such as Databases, Software, and Surveillance Systems Available to the Fellow

The fellow will be provided access to essential analytic and data visualization tools, including SAS, Power BI, and ArcGIS, to support assigned activities. The fellow will also have access to Google Workspace, Microsoft Office Suite products, and Qualtrics. To complete required analyses, the fellow will be granted access to hospital discharge data (HDD), syndromic surveillance data (ESSENCE), vital records, opioid prescription data, opioid dashboard tables, and other relevant internal data sources. To support skill development, the fellow will have opportunities to participate in training for SAS and other statistical or analytic software through LinkedIn Learning and other approved training providers.

Projects

Surveillance Activity Title: Opioid Dashboard Management and Data Quality Enhancement: SAS Support and Data Request Assistance

Surveillance Activity Description:

The fellow will work with both BAE and OIVP to maintain and enhance a public-facing opioid dashboard. This dashboard is updated weekly and/or monthly and highlights key trends in non-fatal and fatal deaths, emergency department and inpatient visits for suspected overdoses, EMS/Law Enforcement responses for suspected opioid overdoses, overdoses by primary care area, and opioid prescriptions. The fellow will be responsible for maintaining and updating the underlying data extracts, ensuring timely and accurate weekly updates, troubleshooting data or system issues as they arise, and working with program staff to ensure the dashboard continues to meet surveillance and prevention needs. Other responsibilities include identifying and resolving data quality issues, responding to requests for data that is not currently displayed on the dashboard, and supporting the addition of new content to the dashboard as needed. The fellow will also assist with the development of the Annual Opioid Surveillance Report, including data preparation, analysis, and review of findings.

Surveillance Activity Objectives:

The proposed project objectives include 1) maintaining and enhancing the opioid dashboard reflecting the current opioid overdose, 2) improving data quality and reliability of surveillance dashboards, reports, and other outputs, and 3) strengthening collaboration and applied epidemiological capacity. Expected deliverables include 1) Weekly and/or monthly updates to the public-facing opioid dashboard, key trends in non-fatal overdoses, and related indicators. 2) Completion of internal and external data requests for overdose indicators not currently displayed on the dashboard. 3) Development and integration of new dashboard content or metrics based on program and stakeholder needs. 4) Creation, testing, and updating of SAS programs to support the transition to a new overdose surveillance system. 5) Technical documentation for analytic code, data processes, and dashboard update procedures, and 6) contributions to internal and external reports, briefings, data tables, visualizations, or presentations related to overdose surveillance findings.

Surveillance Activity Impact:

The opioid dashboard and associated data products strengthen the public health impact by providing ADHS and partnering agencies with timely, high-quality overdose surveillance data to guide prevention efforts, allocate resources, and identify emerging trends. These products support evidence-based decision-making, enhance leadership awareness, and enable rapid, coordinated responses to the needs of external partners and stakeholders. Ultimately, improved access to actionable overdose data contributes to more effective prevention strategies and reduced overdose morbidity and mortality.

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Surveillance System Evaluation Title: Assessing Data Quality for Non-fatal Opioid Overdoses

Surveillance System Evaluation Description:

In partnership with the opioid surveillance team, the fellow will evaluate data quality and completeness across multiple data sources used for non-fatal opioid overdose surveillance. This work will include systematically reviewing and comparing relevant databases to assess completeness, consistency, and potential gaps or underreporting of non-fatal overdose events. The fellow will examine how data elements align across systems, identify inconsistencies or missing information, and document the strengths and limitations of each source. When available, the fellow will use the Master Person Index (MPI) to support record linkage across datasets, enabling more accurate cross-database comparisons and record consolidation. The MPI provides a unique, consistent identifier for individuals across multiple databases, enabling users to accurately link and consolidate records from different data systems and registries. The fellow will also conduct regular data quality assessments to identify, address, and resolve existing data quality issues, ensuring the reliability and accuracy of non-fatal overdose surveillance data.

Surveillance System Objectives:

The objectives of this project are to 1) evaluate the quality, completeness, and consistency of non-fatal opioid overdose data across multiple data systems 2) identify inconsistencies, gaps, and potential underreporting of overdose events and 3) use cross-database comparisons to identify facilities with potential underreporting of opioid overdoses to support targeted outreach and improvements in surveillance practices. When available, record linkage methods—including use of the Master Person Index (MPI)—will be applied to support cross-system comparisons and improve the accuracy of analyses.

The expected deliverables of this project 1) Documentation of data sources and linkage approaches, including standard workflows, methodologies, and procedures used to compare and, when applicable, link overdose records across systems. 2) Reports summarizing findings on data completeness, accuracy, and consistency across non-fatal opioid overdose data sources, including identified gaps and limitations. 3) A list of facilities with potential underreporting of non-fatal opioid overdoses, along with metrics and processes for tracking and monitoring improvements in reporting and data quality over time.

Surveillance System Impact:

This project will strengthen overdose surveillance and support evidence-based public health action. By applying the Master Person Index (MPI) (when available) to link records across multiple data systems, the fellow will help identify inconsistencies and potential underreporting, improving the accuracy and completeness of non-fatal overdose data. Identifying facilities that underreport overdoses and supporting targeted outreach will enhance data reporting practices, enabling more timely and reliable surveillance. Together, these efforts will provide public health agencies with high-quality, actionable data to inform prevention strategies, allocate resources effectively, and respond rapidly to emerging trends in opioid overdoses, ultimately contributing to reduced morbidity and mortality in the community.

Major Project Title: Evaluation of Available Stimulant Data and Possible Uses for Surveillance

Major Project Description:

Given the increasing contribution of stimulants to overdose deaths in Arizona and the limitations of current surveillance systems in fully capturing these trends, the fellow will review and evaluate relevant sources of information on stimulant overdoses to develop recommendations for potential stimulant surveillance. They will assist in designing surveillance approaches, which may include creating a stimulant dashboard, preparing surveillance briefs, writing queries to track stimulant overdoses, and/or helping to identify spikes in stimulant-related incidents.

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Major Project Objectives:

The proposed objectives of this project are to 1) Evaluate existing data sources and literature on stimulant overdoses to identify gaps, trends, and best practices, and develop evidence-based recommendations for enhanced stimulant surveillance. And 2) Support the design and implementation of stimulant overdose surveillance tools, including dashboards, queries, and briefs, to monitor trends and detect emerging overdose spikes.

Key deliverables include 1) Summary of existing data sources, literature review, and gaps in stimulant overdose surveillance 2) Report on analysis of trends using stimulant data sources 3) Presentations and reports for internal stakeholders summarizing findings and proposes surveillance strategies 4) Stimulant overdose dashboard displaying current trends, key findings and emerging concerns in stimulant use and 5) An actionable report of findings on stimulant overdose surveillance.

Major Project Impact:

This project will expand drug overdose surveillance to include stimulants, providing a more complete understanding of the stimulant misuse landscape in Arizona. Enhanced surveillance data will enable ADHS and partner agencies to better target prevention efforts, allocate resources effectively, and secure funding to reduce both fatal and non-fatal stimulant overdoses. Current surveillance has shown that stimulants are a significant contributor to overdose morbidity and mortality in Arizona, highlighting the need for expanded data collection and monitoring to inform timely, evidence-based public health interventions.

**Additional Project #1 Title: Improving Data Quality and Dissemination for the Overdose Prevention Program
Project #1 Type: Other**

Project #1 Description:

The fellow will collaborate with the overdose prevention team to explore new opportunities for data collection and dissemination. This may include developing Overdose Fatality Review (OFR) case dashboards, reviewing Health Information Exchange (HIE) data for the OFR, and providing data updates at state OFR meetings. Additionally, the fellow will investigate the collection of medication for opioid use disorder (MOUD) and substance use disorder (SUD) diagnosis data, as well as explore new methods of data dissemination, such as geocoded naloxone data and unsuppressed county-level opioid dashboards.

Project #1 Objectives and Expected Deliverables:

The proposed objectives of this project include 1) supporting and enhancing data collection and analysis for overdose prevention activities, 2) enhancing surveillance of treatment and diagnosis data, and 3) implementing new methods of data dissemination. Key deliverables for this project include 1) Developing and maintaining OFR case dashboards, 2) Data summaries and analyses from HIE to support OFR activities, 3) Summaries and reports on trends, gaps, and potential areas for improved data collection for treatment and diagnosis data, and 4) pilot geocoded naloxone distribution visualizations, dashboards, and summaries for public health use.

Project #1 Impact:

This project will strengthen overdose prevention efforts by improving the collection, analysis, and dissemination of critical overdose-related data. Developing Overdose Fatality Review (OFR) dashboards and leveraging Health Information Exchange (HIE) data will provide timely insights into overdose patterns and risk factors, supporting informed decision-making at both state and local levels. Investigating medication for opioid use disorder (MOUD) and substance use disorder (SUD) diagnosis data will help identify treatment gaps and opportunities to enhance care delivery. Exploring innovative data dissemination approaches, such as geocoded naloxone data and unsuppressed county-level dashboards, will increase accessibility of actionable information for public health agencies, community partners, and stakeholders.

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Together, these activities will enable more targeted prevention strategies, improve resource allocation, and ultimately reduce morbidity and mortality from opioid and substance-related overdoses in Arizona.

Please Describe the Fellow's Anticipated Role in Preparedness and Response Efforts – Include Activities and Time Allocation (Required Competency of Fellowship)

BAE programs are often involved in state-wide non-opioid-related emergency responses (e.g., COVID-19, infant formula shortage). The fellow will be integrated into the data analysis arm of the HEOC (Health Emergency Operations Center) structure and will assist with epidemiologic data analysis (as requested).

Please Describe the Fellow's Anticipated Role in Cluster and Outbreak Investigations – Include Activities and Time Allocation (Required Competency of Fellowship)

The fellow will be involved in initiating or expanding the use of ESSENCE to monitor stimulant overdoses, detect overdose spikes, and identify possibilities for recognizing stimulant overdose clusters.